Evaluation Plan for the Washington Medicaid Integration Partnership Pilot Project WMIP Research Group

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Background and Context

The Washington Medicaid Integration Partnership (WMIP) is a collaborative effort of the Medical Assistance (MAA), Health and Rehabilitative Services (HRSA), and Aging and Disabilities Services (ADSA) Administrations. The program mission is implement a new client-focused, coordinated Medicaid delivery system that improves health status and treatment outcomes for senior and disabled Medical Assistance clients while controlling costs.

Target Population

WMIP serves adults (aged 21+) who are categorically eligible for services paid for by the Washington State Department of Social and Health Services (DSHS) as aged, blind, or disabled Medical Assistance clients. WMIP is a voluntary participation pilot project for up to 6,000 senior and adult disabled clients in Snohomish County.[1]

Seniors and the adult disabled are two very distinct population groups, often requiring very different care. However, both groups have complex and chronic health care needs.[2] Senior and adult disabled consumers are two of the highest user groups for the whole range of publicly funded social and health services. The services are often not integrated and tailored to each person's needs. WMIP is targeting two population groups that may best benefit from coordinating the full range of care.

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[1] Medicaid-only clients were automatically enrolled in the WMIP, but given the opportunity to "opt-out" without cause. Dually eligible (Medicaid and Medicare) clients will be notified and given the opportunity to "opt-in" to participate in the WMIP.

[2] While the target population groups are different, there are also a number of commonalities from the perspective of WMIP coordination and, therefore, evaluation design. Common population characteristics include:

- Multiple chronic diagnoses with multiple specialists providing care that can result in multiple treatment plans and/or pharmaceutical regimens,
- Reduced physical mobility,
- Chronic pain
- Reduced personal communication capacity,
- A lack of a social support network,
- A fixed, low income,
- In some cases, cognitive impairment.

Start-up Issues

WMIP enrollment began in January 2005. At start-up, covered services include medical and outpatient chemical dependency services. Most program start-up issues will be operational. Evaluation start-up issues will include developing ongoing data collection sources and methods, assessing how enrolled clients differ from non-enrollees, and developing baseline enrollee and population level data estimates to support later analyses.

Mental health and long-term care services are scheduled to be phased into the WMIP benefit package in October 2005. The phased inclusion of these services will require assessing potential changes in enrollment patterns that may occur when these services are phased in. Phasing mental health and long-term care services into the package of covered services also will delay the assessment of the full impact of WMIP on mental health and long-term care outcomes.

Evaluation Approach

This design presents research and evaluation questions that can be answered either from surveys of WMIP and comparison group clients and providers or from linked administrative data for WMIP and comparison group clients.

The overall design compares changes in clients participating in the WMIP pilot project to similar "comparison" clients who continue to receive services through current delivery systems: fee-for-service MAA, DASA, and ADSA systems and the capitated RSN-based mental health service delivery system administered by MHD.[3] Changes in health status, care coordination, client satisfaction, quality of care, access to care, and service use for clients enrolled in the WMIP pilot project will be compared to changes for similar consumers who continue to receive Medicaid services through the delivery systems currently in place.[4]

This approach – often referred to as the differences-in-differences model – has two main strengths. First, it controls for certain forms of selection bias, which is particularly important in the context of a program with voluntary enrollment. Second, it controls for potentially confounding "time effects." For example, if there are changes in access to care or service use in the existing (non-WMIP) service delivery systems after WMIP implementation, then the differences-in-differences approach correctly shifts the baseline of comparison for measuring WMIP program impacts.

[3] Analyses of survey data will not use a differences-in-differences approach because this evaluation design includes only one survey wave. We plan to link survey data to baseline measures of health status available in administrative data (risk adjustment scores, functional status, mental illness profile, need for CD treatment) to control for baseline differences between WMIP and non-WMIP survey respondents.

[4] Because the target populations are both similar and dissimilar, we expect that a number of the analyses will require segmenting the results into senior and adult disabled consumers to best tell the story.

Identification of Comparison Groups

There are two broad issues to be addressed in the selection of a valid comparison group for any particular analysis. First, comparison clients must have health characteristics that are similar – in the relevant dimensions – to the characteristics of WMIP clients used in the analysis. In analyses conducted using linked administrative data, comparison clients will generally be selected using one or more of the following: diagnoses in medical claims or encounter data, mental illness diagnoses in RSN encounter data, or information about functional status in ADSA assessment data.

For example, analyses assessing the impact of WMIP on mental health outcomes will restrict comparisons to clients who have baseline mental illness conditions (e.g., schizophrenia, bipolar disorders, depression) that are comparable to the WMIP group, as identified in RSN encounter and medical claims data. In assessing the impact of WMIP on CD treatment outcomes, we will limit comparisons to clients with an identified need for CD treatment (e.g., based on diagnoses of substance abuse, dependence, or psychosis in medical claims). In assessing impacts on outcomes related to the provision of long-term care, we will limit comparisons to be among WMIP and non-WMIP clients with similar functional status based on ADSA assessment data. In addition to selecting comparison clients based on the comparability of baseline health conditions, we will use regression methods to control for differences in demographic characteristics (e.g., age, gender, race/ethnicity) that may be related to health outcomes.

With regard to analyses of survey data, we will sample WMIP enrollees and comparison clients served through existing systems in a systematic way based on indicators of service need derived from administrative data. To achieve adequate precision in comparisons between WMIP and non-WMIP clients, we anticipate oversampling clients needing DASA services, and we may also need to oversample clients needing MHD and ADSA services.

The second issue to be addressed in the selection of comparison non-WMIP clients is the potential confounding effect of differences in service delivery systems. In general, we will need to select comparison group members from outside of Snohomish County, taking into account demographic, geographic, and service delivery systems differences, in consultation with program staff. It may be possible to draw comparison clients from Snohomish County for analyses of dual eligible clients, as only a small proportion of Snohomish County dual eligible clients are expected to enroll in WMIP in the early stages of the project. As such, it may be possible to construct large comparison groups of dual eligible clients (controlling for relevant health characteristics) from the non-WMIP population within Snohomish County.

Data Sources

Two types of data will be used for evaluation:

- Administrative client-level data:
    - The key data elements include Medicaid-paid claims, medical and mental health encounter data, Client Services Database (CSDB) service data, ADSA assessment data, and TARGET treatment data. These data provide information on WMIP enrollees and comparison clients both before and after WMIP implementation.
    - The evaluation will use multivariate statistical models that control for differences in demographic characteristics, prior expenditure and service patterns, baseline chronic disease conditions (using risk-adjustment methods), and baseline long-term care functional assessment data.

- Survey data:
    - Client and provider surveys will be developed and implemented to measure client and provider satisfaction with care coordination and quality of care under WMIP, and to measure comparable outcomes for comparison clients and providers.
    - To the extent feasible, ongoing Division of Alcohol and Substance Abuse (DASA), Mental Health Division (MHD), and DSHS client surveys will be used to develop baseline satisfaction measures for the aged and disabled population.
    - Analysis of survey data will depend primarily on descriptive statistics to assess health care outcomes for senior and adult disabled consumers under the WMIP. We expect the survey data will serve to guide some of the administrative data analyses and help "flesh-out" the quantitative findings.

A more complete description of data sources is found in Appendix A. Appendix B is a proposed set of deliverables and timeline. The first and second year impact reports will be contracted out to an independent research organization.

Major Evaluation Questions

Enrollee Characteristics

Are WMIP enrollees different than non-enrollees? The voluntary "opt-out" and "opt-in" enrollment processes mean that clients who choose to enroll (or remain enrolled) in the program may be significantly different from non-enrollees in their health-related characteristics. Systematic differences in the characteristics of enrollees and non-enrollees could confound estimates of WMIP impacts. Consequently, assessing the characteristics of WMIP enrollees is an important element of the evaluation design. Enrollee characteristics will be examined using linked administrative data for enrollees and non-enrollees in Snohomish County. Example questions include:

1. Do enrollees and non-enrollees have significantly different baseline chronic disease conditions?
2. Are clients with mental illness (as recorded in RSN encounter and FFS medical claims history) more or less likely to enroll in WMIP?[5]
3. Are clients in need of CD treatment more or less likely to enroll in WMIP?
4. Are clients with functional impairments more or less likely to enroll in WMIP?
5. How do pre-WMIP medical, mental health, CD treatment, and long-term care service use patterns differ between enrollees and non-enrollees? For example, are clients who use mental health services more or less likely to enroll in WMIP?

Client Health Status

Does WMIP improve client health outcomes? It is anticipated that the WMIP program will improve client health by increasing care coordination for clients with complex needs, improving management of chronic disease conditions including mental illness and chemical dependency, and increasing the use of preventive medical care. The impact on health status will be assessed primarily through the application of standard measurement tools to linked client-level claims, encounter, and assessment data (e.g., chronic disease scores that facilitate health status comparisons among clients with complex health conditions). Examples of the evaluation questions to be addressed include:

1. Does WMIP improve client health status relative to the comparison group by slowing the progression of chronic disease conditions (as measured by changes in chronic disease scores based on diagnoses in claims and encounter data)?
2. Does WMIP slow deterioration in functional status, as measured by changes in the ability to perform activities of daily living (ADLs)?[6]

[5] In FY 2002, 49 percent of Medicaid-only and 31 percent of dual eligible aged or disabled clients in Snohomish County had a mental illness diagnosis recorded in their FFS medical claims. Given the high prevalence of mental illness in this population, it will be possible to determine with a high degree of precision whether there are biases in the mental illness characteristics WMIP enrollees.

3. Does WMIP affect self-reported measures of health status (client survey)?
4. Does WMIP reduce mortality rates?
5. Do WMIP consumers show lower use of services indicative of deteriorating health status? Examples include hospital admissions, emergency room utilization (both appropriate and avoidable), interventions for adverse drug interactions, and contra-indicated usage of psychotropic medications.

Care Coordination

Does WMIP improve care coordination and access to care? Care coordination directly impacts the quality of services provided to a patient and the quality of life of patients. Measuring the impacts of changes in care coordination generally requires a combination of direct and indirect measures. The direct measures are usually based on surveys; e.g. client satisfaction and provider assessment responses. The changes in indirect measures (e.g., treatment penetration rates for clients with mental illness) are more difficult to attribute solely to improved coordination of care. These measures will be analyzed using a combination of regression methods and comparative descriptive statistics.

1. Are clients and providers satisfied with care coordination under the WMIP program (measured through client and provider surveys)? Does client satisfaction vary by the type or complexity of client needs?
2. Does WMIP reduce ER utilization for non-emergent conditions? Does WMIP reduce ER utilization for emergent conditions that are primary care treatable or primary care preventable?[7]
3. Does WMIP increase mental health treatment penetration rates among clients with mental illness?[8] In other words, does WMIP increase the proportion of clients with mental illness who get mental health services? Does the impact of WMIP on access to care vary by type of mental illness (e.g., schizophrenia, bipolar, depression, dementia)?
4. Does WMIP increase CD treatment penetration rates among clients needing treatment for substance use? Does WMIP reduce ER utilization among clients with AOD disorders?
5. Does WMIP improve access to specialty medical providers (client survey)?
6. Does WMIP improve continuity of care among providers (using established continuity of care measures applied to administrative data)?
7. Are WMIP clients satisfied with choice of, access to, and ability to change providers (client survey)?

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[6] ADLs are activities related to personal care and include bathing or showering, dressing, getting in or out of bed or a chair, using the toilet, and eating. It is anticipated that data on ADLs will be available for WMIP and comparison FFS clients who receive long-term care services from periodic client assessments conducted by ADSA staff.

[7] The "Billings" algorithm will be used to classify ER visits. See Billings J, Parikh N, Mijanovich T. *Emergency Room Use: The New York Story*. The Commonwealth Fund; November 2000.

[8] For non-WMIP comparison clients, penetration rates will be based on MH services funded both by MAA and MHD. For WMIP clients, penetration rates will be based on both WMIP-covered outpatient services and other services that continue to be provided through the RSN.

8. Are there measurable changes in pharmacy claim patterns? Does use of "preventive" medications increase (e.g., beta-blockers for coronary heart disease)? Is the number of same therapeutic class prescriptions reduced? Is the number of contra-indicated prescriptions reduced? Is the number of duplicate prescriptions reduced?
9. Do WMIP consumers show reduced use of medical services indicative of poor coordination of care? Examples include hospital admissions, emergency room utilization, and drug-interaction interventions.

Quality of Care

Does WMIP improve quality of care? WMIP quality impacts will be assessed through survey data and the application of standard quality measurement techniques to linked client-level claims, encounter, and assessment data. Example evaluation questions to be addressed include the following:

1. Does WMIP improve survey measures of client satisfaction and provider satisfaction?
2. Does WMIP reduce the occurrence of "avoidable" hospitalizations for ambulatory care sensitive conditions?[9]
3. Does WMIP improve psychotropic medication management (e.g., as measured by applying HEDIS antidepressant medication management algorithms to medical claims data)?
4. Does WMIP increase chemical dependency treatment completion rates?
5. Are there differences in medical "costs offsets" between clients receiving mental health or chemical dependency treatment through WMIP and clients receiving treatment through the current service delivery systems?
6. Does WMIP reduce the rate of transition to more restrictive long-term care placements?

Service Utilization

Does WMIP affect service use? Linked administrative data will be used to assess the impact of WMIP on the types of services clients receive. Example questions to be addressed include:

1. Does WMIP increase the use of preventive medical care and decrease the use of emergency room and inpatient medical care?
2. Does WMIP affect use of outpatient vs. inpatient mental health services?
3. Does WMIP affect the average number of outpatient mental health service hours?

[9] Ambulatory care sensitive conditions (ACSCs) are medical conditions that in most instances should not result in a hospitalization if treated with timely and appropriate outpatient care. Hence, hospitalizations for ACSC conditions are sometimes referred to as "avoidable." The most common ACSCs are asthma, COPD, congestive heart failure, and pneumonia.

4. Does WMIP affect the use of outpatient mental health treatment and psychotropic medication?
    a. Increase use of outpatient therapy in combination with medication?
    b. Increase in use of outpatient therapy alone?
    c. Shift from medication management by primary care physicians to medication management by mental health service providers?
5. Does WMIP shift DASA clients to less expensive chemical dependency treatment modalities?
    a. Shift from inpatient to outpatient services?
    b. Shift from individual to group therapy?
6. Does WMIP reduce use of nursing home services through the cost-effective substitution of less expensive long-term care services and/or through longer-term improvements in client health status through better care management?
7. Does WMIP affect client arrest or conviction rates?

APPENDIX A

Data Sources

Administrative Data

The evaluation will rely primarily on the analysis of linked administrative data from the following sources:

1. Medical Assistance Eligibility file – Medicaid program eligibility.
2. Medicaid Management Information System, Extended Database or Decision Support System (MMIS-EDB or DSS) – MAA service use, costs, diagnoses, procedures, provider, prescription drug type, etc.
3. Medical and mental health encounter data – service use, diagnoses, prescription drug type, etc. for WMIP enrollees.
4. Client Services Database (CSDB) – personal identifiers, service use, and costs for MHD, DASA, and ADSA.
5. MHD diagnosis data.
6. TARGET - chemical dependency treatment data.
7. CARE data – ADSA assessment data.
8. Managed care vendor client assessment data, if feasible.
9. Department of Health, Vital Registration System.
10. Criminal justice information from the Washington Institute for Public Policy criminal conviction history and Washington State Patrol arrest data.

Client and Provider Surveys

Surveys will be used to measure client and provider satisfaction with care coordination, access, and quality of care under WMIP. The survey instruments and sampling design will be developed collaboratively with the participating programs and coordinated with other ongoing survey efforts (DSHS Client and Provider Surveys, MAA Consumer Assessment of Health Plans Surveys, MHD Adult Client Survey, and the DASA Client Satisfaction Survey).

Clients will be sampled from both WMIP enrollees and comparison non-WMIP aged and disabled clients. It is expected that the sampling design will over-sample specific types of clients based on factors such as physical and mental illness conditions and the types of services used. Providers will be sampled from those serving WMIP enrollees and those serving comparison clients.

The design described here assumes that sufficient resources will be available to conduct one wave of client and provider surveys fielded in calendar year 2006.

Evaluation staff will:

1. Manage the survey instrument design process in collaboration with the participating programs.
2. Develop sampling frames and select samples from administrative data. This is expected to involve stratified sampling by client characteristics (e.g., eligibility type, client health status, types of services used) and provider characteristics.
3. Help monitor the data collection process and resolve data collection issues that arise.
4. Analyze survey data, including the use of specialized statistical software (necessary to account for the stratified sample design) to calculate confidence intervals and test differences in outcomes between WMIP and comparison clients/providers.
5. Prepare Client and Provider Survey Reports that assess the impact of WMIP on survey-based measures of coordination, access, and quality of care.

It is expected that the client survey will address the following topics:

1. Global self-assessment of health status.
2. Physical conditions, functional status
3. Assessment of coordinated care management.
4. Access to care with subcomponents specific to mental health services, chemical dependency treatment services, long-term care services, and medical care (primary care, specialist care, preventive care, transportation, pharmacy, etc.).
5. Consumer involvement in care decisions.
6. Satisfaction with quality of care, with subcomponents for specific types of services.

APPENDIX B

Timeline for Deliverables

- **Ongoing throughout evaluation:** Brief DSHS WMIP Team on important monitoring and evaluation findings.
- **Enrollee Characteristics Fact Sheets** (first year and ongoing) from administrative data. These brief fact sheets will cover baseline differences in the need and prior service use characteristics of clients, at startup and as each added set of services is phased in. They will describe the baseline distribution of chronic conditions, mental health and chemical dependency treatment needs, and ADL needs (from ADSA assessments) for WMIP clients.
- **June 2006 Baseline Health Status Report** from administrative data: This report will compare WMIP clients at baseline with two sets of comparison groups: 1) the rest of the Snohomish County aged, blind and disabled clients, and 2) similar aged-blind-disabled clients elsewhere in the state. The report will examine baseline and early post-implementation indicators of health status, care coordination, access to care, quality of care, and service use.
- **November 2006 Client Satisfaction Report** from a telephone Client Survey of WMIP clients and comparison group clients. This report will discuss current client satisfaction with their care and care coordination, and compare it to the satisfaction of similar clients elsewhere in the state who are not enrolled in WMIP. The report will also discuss client's self-reported assessment of differences in their care and care coordination between current year and prior (pre-WMIP) year.
- **November 2006 Provider Satisfaction Report** from a mail Provider Survey of WMIP providers and comparison providers. This report will compare provider satisfaction under WMIP with similar providers not participating in WMIP.
- **October 2007 Preliminary Impact Report:** Preliminary impact report from administrative data, covering changes in health status, care coordination, access to care, quality of care and service use outcomes primarily during the first year of WMIP (2005). This report will use a difference of differences model, comparing changes in WMIP clients to changes in similar clients served through existing delivery systems elsewhere in the state. Preparation of this report will be contracted out to an independent research organization.
- **October 2008 Final Impact Report:** Final impact report from administrative data (same model as above) covering at least the first 30 months of WMIP operation. This time period will include up to 21 months of mental health and long-term care coverage and 30 months of medical managed care and chemical dependency treatment coverage. Preparation of this report will be contracted out to an independent research organization.